

Attorney's Docket: 2002DE312

Serial No.: 10/659,600

Art Unit 1764

Response to Final Rejection Mailed December 6, 2005

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) A method of hydrodechlorinating nuclear-chlorinated o-xylenes which ~~comprises~~ consists of hydrodechlorinating in a single reactor a starting material comprising [[the]] a nuclear-chlorinated o-xylene or mixtures of nuclear-chlorinated o-xylenes in the gas phase with a gas stream comprising hydrogen [[at]] in the presence of a noble-metal-containing catalyst at a temperature in the range from 220 to 360°C to provide a reactor effluent comprising at least 90 %-wt yield of o-xylene and hydrogen chloride, and recovering the o-xylene.
2. (Currently Amended) The method as claimed in claim 1, wherein the noble-metal-containing catalyst comprises a noble metal selected from the group consisting of palladium, or platinum, and mixtures thereof.
3. (Currently Amended) The method as claimed in claim 1, wherein the noble-metal-containing catalyst comprises a noble metal disposed on a support material comprising an for the noble metal is oxidic material materials.
4. (Currently Amended) The method as claimed in claim 1, wherein the amount of hydrogen is fed [[is]] to said single reactor in at least [[the]] an equimolar equivalent of the molar content of nuclear-chlorinated o-xylene in the starting material.

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5. (Currently Amended) The method as claimed in claim 1, wherein the nuclear-chlorinated o-xylene is selected from the group consisting of nuclear monochlorinated o-xylene, nuclear polychlorinated o-xylene and mixtures thereof ~~o-xylenes are used individually or as mixtures.~~
6. (Currently Amended) The method as claimed in claim 1, wherein the ~~hydrogenation~~ hydrodechlorinating reaction is carried out at atmospheric pressure.
7. (Currently Amended) The method as claimed in claim 2, wherein the noble-metal-containing catalyst comprises from 0.01 to 5 percent by weight of said noble metal and a support material ~~a supported palladium or platinum.~~
8. (Currently Amended) The method as claimed in claim 3, wherein the noble-metal-containing catalyst comprises a noble metal disposed on a support for the noble metal is: material selected from the group consisting of aluminum oxide; silicon oxide; [[or]] carbon, and mixtures thereof.
9. (Currently Amended) The method as claimed in claim ~~[[3]]~~, wherein a molar ratio of the amount of hydrogen fed is at least to an the equimolar equivalent of the molar content of nuclear-chlorinated o-xylene in the starting material ranges from 3 to 30 times said equivalent molar content.

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10. (Currently Amended) The method as claimed in claim 1 [[claim 3]], wherein the starting material comprises a mixture of nuclear monochlorinated o-xylene and nuclear polychlorinated o-xylene in a molar ratio of from 5:1 to 1:2~~nuclear-chlorinated o-xylenes used individually or as mixtures.~~

11. (Canceled)

12. (Currently Amended) The method of claim 1 ~~as claimed claim 8~~, wherein the support material ~~for the noble metal~~ is carbon.

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Currently Amended) A method for the dehydrochlorination of mixed nuclear-chlorinated o-xylenes, said method consisting of comprising:

- a) passing a gas stream comprising hydrogen and a starting material comprising the mixed nuclear chlorinated o-xylenes, to a single reactor and therein contacting a noble metal catalyst at a temperature in the range from 220 to 360°C to dehydrochlorinate the mixed nuclear chlorinated o-xylenes and to provide a reactor discharge comprising at least 90 %-wt yield of o-xylene and hydrogen chloride, and
- b) recovering the o-xylene from the reactor effluent,

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wherein said mixed nuclear chlorinated o-xylenes are selected from the group consisting of nuclear monochlorinated o-xylenes, nuclear polychlorinated o-xylenes and mixtures thereof, and wherein the noble metal catalyst comprises a noble metal [[is]] selected from the group consisting of palladium, platinum, and mixtures thereof.

18.(New) The method of claim 17, wherein said noble metal catalyst comprises the noble metal disposed on a support material selected from the group consisting of aluminum oxide, silicon oxide, carbon and mixtures thereof.

19.(New) The method of claim 17, wherein step b) comprises fractionation wherein an o-xylene product is recovered and an unwanted byproduct stream comprising nuclear monochlorinated and nuclear dichlorinated o-xylene is combined with the starting material and returned to the single stage reaction zone.

20.(New) The method of claim 17, wherein said noble metal catalyst is periodically regenerated with air at said reaction temperature.